Applied Physics B Lasers and Optics

Founded by H.K.V. Lotsch

Volume B 63
1996

Editor-in-Chief
F. Träger, Kassel

Board of Co-editors
S.N. Bagaev, Novosibirsk
H. Coufal, San Jose, CA
W. Demtröder, Kaiserslautern
T.W. Hänsch, München
G. Huber, Hamburg
U. Keller, Zürich
E. Krätzig, Osnabrück
G. Marowsky, Göttingen
G.A. Mourou, Ann Arbor, MI
Y.R. Shen, Berkeley, CA
F.K. Tittel, Houston, TX
K.J. Witte, Garching
J. Wolfrum, Heidelberg
T. Yabuzaki, Kyoto

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA: Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem. MA 01970, USA, stating the ISSN 0721-7269, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must fire be obtained from the publisher.

The Canada Institute for Scientific and Technical Information (CISTI) provides a comprehensive, world-wide document delivery service for all Springer-Verlag journals. For more information, or to place an order for a copyright-cleared Springer-Verlag document. Please contact Client Assistant, Document Delivery, Canada Institute for Scientific and Technical Information, Ottawa K1A 0S2, Canada (Tel: 613-993-9251; Fax: 613-952-8243; e-mail: cisti.docdel@nrc.ca).

Printers: Universitätsdruckerei H. Stürtz AG, Würzburg
Printed in Germany © by Springer-Verlag, Berlin, Heidelberg 1996

Springer

PHYSICS AND ASTRONOMY CLASSIFICATION SCHEME (PACS)

Shortened version for use in classifying papers for Applied Physics

General

02 Mathematical methods in physics
06 Measurement science and metrology
07 Specific instrumentation
- 07.60 Optical instruments and techniques, detection of radiation
- 07.65 Optical spectroscopy and spectrometers
- 07.75 Mass spectrometers and mass-spectroscopy techniques
- 07.80 Electron and ion microscopes and spectrometers; techniques
- 07.85 X-ray and gamma-ray instruments and techniques

Atomic and molecular physics

32 Atomic spectra and interactions with photons
33 Molecular spectra and interactions of molecules with photons
34 Atomic and molecular collision processes and interactions
35 Experimentally derived information on atoms and molecules
36 Studies of special atoms and molecules (macro- and polymer molecules, clusters)

Fundamental areas of phenomenology (including applications)

41 Electricity and magnetism
42 Optics *(see also 78)*
- 42.10 Propagation and transmission in homogeneous media
- 42.20 Propagation and transmission in inhomogeneous media
- 42.30 Optical information, image formation and analysis
- 42.40 Holography
- 42.50 Quantum optics
- 42.55 Laser processes
  - C *Pumping mechanisms*
  - E *Molecular gas lasers* (CO_2, CO, N_2O, *formaldehyde*)
  - G *Excimer lasers*
  - H *Atomic, ionic, and other gas lasers*
  - M *Laser action in liquids and organic dyes*
  - P *Laser action in semiconductors*
  - R *Laser action in solid-state lasers*
  - T *Free-electron lasers*
- 42.60 Laser systems and laser-beam applications
  - B *Design of specific laser systems*
  - D *Laser resonators, cavities, and amplifiers*
  - E *Laser beam deflection and focusing*
  - F *Laser beam modulation, mode locking, and tuning*
- 42.65 Nonlinear optics
- 42.68 Atmospheric optics
- 42.70 Optical materials
- 42.80 Optical devices, techniques, and applications (including fiber and integrated optics)

43 Acoustics *(see also 62)*

Fluids, plasmas, and electric discharges

52 Physics of plasmas and electric discharges

Condensed matter: structure, mechanical and thermal properties

61 Structure of liquids and solids; crystallography
(for surface structure, see 68.35; for thin-film structure, see 68.55)
- 61.10 Determination of structures
- 61.12 Neutron determination of structures
- 61.14 Electron determination of structures
- 61.16 Other determination of structures
- 61.20 Liquid structures
- 61.30 Liquid crystals
- 61.40 Amorphous and polymer materials, glasses
- 61.70 Defects in crystals
- 61.80 Radiation damage and other irradiation effects

62 Mechanical and acoustical properties of condensed matter
63 Lattice dynamics and crystal statistics
64 Phase equilibria, and phase transitions
65 Thermal properties of condensed matter
66 Transport properties of condensed matter (nonelectronic)
- 66.30 Diffusion and ionic conduction in solids

68 Surfaces and interfaces; thin films and whiskers
- 68.10 Fluid surfaces and fluid-fluid interfaces
- 68.15 Liquid thin films
- 68.35 Solid surfaces and solid-solid interfaces (including bicrystals)
- 68.45 Solid-fluid interfaces
- 68.55 Thin films: growth, structure, epitaxy and nonelectronic properties
- 68.65 Layer structures, intercalation compounds, and superlattices: growth, structure, and nonelectronic properties
- 68.70 Whiskers and dendrites: growth, structure, and nonelectronic properties

Condensed matter: electronic structure, electrical, magnetic, and optical properties

71 Electron states
72 Electronic transport
- 72.15 Electronic phenomena in metals and alloys
- 72.20 Conductivity phenomena in semiconductors and insulators
- 72.40 Photoconduction and photovoltaic effects
- 72.50 Acoustoelectric effects
- 72.60 Mixed conductivity and conductivity transitions
- 72.70 Noise processes and phenoma

73 Electronic structure and electrical properties of surfaces, interfaces, and thin films
- 73.20 Electronic surface states
- 73.25 Surface conductivity
- 73.30 Surface double layers, Schottky barriers, and work functions
- 73.40 Interfaces
- 73.60 Electronic properties of thin films

74 Superconductivity
- 74.70 Superconducting materials

75 Magnetic properties and materials
- 75.70 Magnetic films and plates

76 Magnetic resonances and relaxation; Mössbauer effect
77 Dielectric properties and materials
- 77.55 Dielectric thin films

78 Optical properties
- 78.30 Infrared and Raman spectra
- 78.65 Optical properties of thin films
- 78.70 X-ray spectra and positron annihilation

79 Electron and ion emission by liquids and solids; impact phenomena
- 79.20 Impact phenomena (including electron spectra and sputtering)
- 79.40 Thermionic emission
- 79.60 Photoemission and photoelectron spectra
- 79.70 Field emission and field ionization

Cross-disciplinary physics

81 Materials science
- 81.10 Methods of crystal growth and purification
- 81.15 Methods of thin-film deposition
  - Z *Laser deposition methods*
- 81.40 Treatment of materials and its effect on microstructure and properties
  - Z *Laser machining*
- 81.60 Corrision, oxidation, and surface treatments
  - Z *Laser techniques, including ablation*

82 Physical chemistry
- 82.20 Chemical kinetics and chemical reactions
- 82.30 Specific chemical reactions; reaction mechanisms
- 82.40 Chemical kinetics and reactions: special regimes and techniques
  - Z *Laser-induced reactions*
- 82.45 Electrochemistry and electrophoresis
- 82.50 Photochemistry and radiation chemistry
- 82.65 Surface processes
- 82.70 Dispersive systems
- 82.80 Chemical analysis and related physical methods of analysis

84 Electromagnetic technology
- 84.60 Direct energy conversion and energy storage

85 Electrical and magnetic devices
- 85.30 Semiconductor devices
- 85.40 Integrated electronics
- 85.60 Photoelectric and optoelectronic devices and systems
- 85.80 Electrochemical, thermo-EM, and other devices

87 Biophysics (biological effects of radiation)

A classified index for Volumes 1–25 can be found in Appl. Phys. **25**, 367–453 (1981), one for Volume 26–40 in Appl. Phys. A 40/4 (August 1986), and an earlier index for Volumes 1–15 at the end of Appl. Phys. **15** (May 1978)

Contents of Applied Physics B 63

Ahn H → Nakano H
Al-Dwayyan AS → Azzeer AM
Almási G → Szatmári S
Al-Salhi MS → Azzeer AM
Amat-Guerri F → Fimia A
Anderson N, Bearpark T, Scott SJ: An X-ray preionised self sustained discharge HF/DF laser 565
Angelow G → Laeri FG
Astinov VH, Georgiev GM: Ultrabroadband single-pulse CARS of liquids using a spatially dispersive Stokes beam 62
Atherton B → Diddams S
Aussenegg FR → Gotschy W
Axner O → Ljungberg P
Azzeer AM, Al-Dwayyan AS, Al-Salhi MS, Kamal AM, Harith MA: Optical probing of laser-induced shock waves in air 307

Balmer JE → Präg AR
Barbini R → Ciucci A
Barrio JI del, Fernández Cézar R, Martín E, Tablas FMG, Fuss W: Pulsed infrared selective dissociation of CF_3Br as a function of pressure, temperature, fluence and wavelength 51
Basset G → Faure N
Bearpark T → Anderson N
Beckers J → Woike Th
Beijerinck HCW → Fey-den Boer AC
Beléndez A → Fimia A
Beléndez A → Fuentes R
Bergmann V → Meier W
Berkovic G → Stolle R
Bernini U, De Stefano L, Feo M, Mormile P, Russo P: Optical bistability by nonlinear reflection in a polymeric blend 155
Betzler K → Wöhlecke M
Bhar GC, Rudra AM, Chaudhary AK, Sasaki T, Mori Y: Highly efficient difference-frequency generation in KTP 141
Biebricher M, Pfeiffer K, Schulz P, Franke H, Lorkowski HJ: Elastooptic investigations in functional allyl polymer lightguides 609
Bigelow N → Stoltz E
Blagoev KB, Popov G, Dimova E: Laser action of $nd^8(n+1)\,s^2$–$nd^9(n+1)\,p$ transitions in HgIII, CuII and AgII 349
Blanke T → Schade W
Bor Zs → Horváth ZL
Borel C → Faure N
Bozóki Z, Sneider J, Szabó G, Miklós A, Serényi M, Nagy G, Fehér M: Intracavity photoacoustic gas detection with an external cavity diode laser 399
Brand L → Zander C
Brignon A, Sillard P, Huignard J-P: Vector phase conjugation in Cr^{4+}:YAG by four-wave mixing with linearly-polarized pump beams 537
Buchvarov I → Saltiel S
Bullock AM → Dharamsi AN
Buse K → Stevendaal U van

Casale E → Mormile P
Chan KP, Yamada M, Inaba H: Coherence gating in optical heterodyne detection measurements of scattering and absorption in highly scattering media 249
Chaudhary AK → Bhar GC
Chichkov BN → Wellegehausen B
Ciucci A → Lucchesini A
Ciucci A, Palleschi V, Rastelli S, Barbini R, Colao F, Fantoni R, Palucci A, Ribezzo S, Steen HJL van der: Trace pollutants analysis in soil by a time-resolved laser-induced breakdown spectroscopy technique 185
Colao F → Ciucci A
Conrad U → Hohlfeld J
Contzen J, Heppke G, Kitzerow H-S, Krüerke D, Schmid H: Storage of laser-induced holographic gratings in discotic liquid crystals 605
Corradi G → Wöhlecke M
Couchaud M → Faure N
Courtois D → Zéninari V
Crosley DR → Luque J
Curl RF → Eckhoff WC

Dähne L → Johr T
Daido H → Zhang T
De Backer MR → Zéninari V
De Natale P → Fumeaux C
De Rosa M → Lucchesini A
De Stefano L → Bernini U
De Stefano L → Mormile P
Deutsch N → Laeri FG
Dharamsi AN, Bullock AM: Applications of wavelength-modulation spectroscopy in resolution of pressure and modulation broadened spectra 283
Dick B → Engert JM
Diddams S, Atherton B, Diels J-C: Frequency locking and unlocking in a femtosecond ring laser with application to intracavity phase measurements 473
Diels J-C → Diddams S
Dimova E → Blagoev KB
Dinev S → Dreischuh A
Douard M → Vezin B
Dreischuh A, Kamenov V, Dinev S: Parallel guiding of signal beams by a ring dark soliton 145
Dress P, Franke H: A cylindrical liquid-core waveguide 12
Drexhage KH → Zander C
D'Accurso V, Manzano FA, Slezak VB: Chopped CW laser-induced optogalvanic effect in a neon hollow cathode discharge 375
Du D, Liu X, Mourou G: Reduction of multiphoton ionization in dielectrics due to collisions 617
Dwivedi RK → Sircar A

Eckhoff WC, Putnam RS, Wang S, Curl RF, Tittel FK: A continuously tunable long-wavelength cw IR source for high-resolution spectroscopy and trace-gas detection 437
Egbert A → Wellegehausen B
Eggeling C → Zander C
Engert JM, Dick B: The UV absorption spectrum of the phenyl radical isolated in solid argon 531
Englert B-G → Löffler M

Fang Q → Sun Q
Fantoni R → Ciucci A
Faure N, Borel C, Couchaud M, Basset G, Templier R, Wyon C: Optical properties and laser performance of neodymium doped scheelites $CaWO_4$ and $NaGd(WO_4)_2$ 593
Faust B → Reyher H-J
Fehér M → Bozóki Z
Feo M → Bernini U
Fernández Cézar R → Barrio JI del
Fernsler R → Michelmann K
Feuerhake M → Szatmári S
Feurer T → Michelmann K
Fey-den Boer AC, Leeuwen KAH van, Beijerinck HCW, Fort C, Pavone FS: Grating feedback in a 810 nm broad-area diode laser 117
Fill EE → Li YL
Fill EE → Präg AR
Fimia A, Mateos F, Beléndez A, Mallavia R, Amat-Guerri F, Sastre R: New photopolymer with trifunctional monomer for holographic applications 151
Fimia A → Fuentes R
Fischer von Weikersthal B → Reinhard I
Fort C → Fey-den Boer AC
Franke H → Biebricher M
Franke H → Dress P
Frejlich J → Garcia PM
Freschi AA → Garcia PM
Fu P, Mi X, Yu Z, Jiang Q, Li X: Beam-size effect in time-delayed laser-induced double gratings 24
Fuentes R, Beléndez A, Fimia A: Diffraction efficiency and signal-to-noise ratio of multiplexed volume phase holograms recorded in a photographic emulsion 29
Fumeaux C, Herrmann W, Rothuizen H, De Natale P, Kneubühl FK: Mixing of 30 THz laser radiation with nanometer thin-film Ni–NiO–Ni diodes and integrated bow-tie antennas 135
Fuss W → Barrio JI del

Gabbanini C → Lucchesini A
Gabrysch M → Reinhard I
Gao W → Yin J
Garcia PM, Freschi AA, Frejlich J, Krätzig E: Scattering reduction for highly diffractive holograms in $LiNbO_3$ crystals 207
Georgiev GM → Astinov VH
Glinz A → Präg AR
Glownia JH, Gnass DR, Sorokin PP: An optical scheme for enhancing the performance of the F_2 (157 nm) laser; A possible F_2 two-photon femtosecond pulse generator 421
Gnass DR → Glownia JH
Gotschy W, Vonmetz K, Leitner A, Aussenegg FR: Thin films by regular patterns of metal nanoparticles: tailoring the optical properties by nanodesign 381

Gozzini S → Lucchesini A
Gu S → Zhou F

Hanson RK → Palmer JL
Harith MA → Azzeer AM
Hasegawa H, Tsukiyama K: The $C^1\Sigma^+ - B^1\Sigma^+$ amplified spontaneous emission in CO 311
Haubrich D → Kreis M
Haussühl S → Woike Th
He WM → Lu ZW
Heppke G → Contzen J
Herrmann W → Fumeaux C
Hesse H → Reyher H-J
Hesse H → Stevendaal U van
Hohlfeld J, Conrad U, Matthias E: Does femtosecond time-resolved second-harmonic generation probe electron temperatures at surfaces? 541
Horváth ZL, Vinkó J, Bor Zs, Linde D von der: Acceleration of femtosecond pulses to superluminal velocities by Gouy phase shift 481
Huang G → Zhou F
Huignard J-P → Brignon A

Ilukhin BI → Ochkin VN
Imasaka T → Kawano H
Imlau M → Woike Th
Inaba H → Chan KP
Ishikawa J → Kurosu T
Ito N → Kurosu T
Ito S: Continuous operation up to 3 kHz in a discharge-pumped XeCl excimer laser 1
Ito S → Saito T
Ivanov L → Minkovski N

Jäkel G → Neumann J
Jiang Q → Fu P
Johr T, Werncke W, Dähne L, Pfeiffer M, Lau A: Dispersion of the third-order susceptibility of a cyanine dye measured by coherent anti-Stokes Raman scattering 641
Jungmann K → Reinhard I

Kamal AM → Azzeer AM
Kamenov V → Dreischuh A
Kämper S → Stevendaal U van
Karabutov AA, Podymova NB, Letokhov VS: Time-resolved laser optoacoustic tomography of inhomogeneous media 545
Karve RS, Lokhman VN, Makarov GN: The effect of mid-infrared and far-infrared emission, generated at NH_3 excitation by intense radiation of a TEA CO_2 laser, on ammonia absorption 355
Kästle R, Sigrist MW: Temperature-dependent photoacoustic spectroscopy with a Helmholtz resonator 389
Kato Y → Zhang T
Kawano H, Lin CH, Imasaka T: Generation of high-order rotational lines by four-wave Raman mixing using a high-power picosecond Ti:Sapphire laser 121
Kienle R, Lee MP, Kohse-Höinghaus K: A scaling formalism for the representation of rotational energy transfer in OH ($A^2\Sigma^+$) in combustion experiments 403
Kim JI → Scherbaum FJ
Kitzerow H-S → Contzen J
Kneubühl FK → Fumeaux C
Knopp R → Scherbaum FJ
Ko D-S → Zander C
Kobayashi T → Tokunaga E
Kochetov IV → Ochkin VN
Kohse-Höinghaus K → Kienle R
Koynov K → Saltiel S
Krätzig E → Garcia PM
Krätzig E → Neumann J
Krätzig E → Stevendaal U van
Kreis M, Lison F, Haubrich D, Meschede D, Nowak S, Pfau T, Mlynek J: Pattern generation with cesium atomic beams at nanometer scales 649
Krüerke D → Contzen J
Kuga Y, Satooka S, Takeuchi K: Effect of flow pattern in a supersonic nozzle reactor on product branching ratio for UV photolysis of UF_6/CH_4 mixtures 293
Kummrow A, Lau A: Dynamics in condensed molecular systems studied by incoherent light 209
Kurosu T, Ishikawa J, Ito N: Diode laser spectrometer for high-resolution spectroscopy in the visible range 265

Laeri FG, Deutsch N, Angelow G, Müller M, Sakowski H: Spatio-temporal coupling of laser fluctuations – Observations on a laser with internal frequency conversion 339
Langhoff H → Neeser S
Laporta P → Taccheo S
Lau A → Johr T
Lau A → Kummrow A
Leduc M → Stoltz E
Lee MP → Kienle R
Leeuwen KAH van → Fey-den Boer AC
Leitner A → Gotschy W
Letokhov VS → Karabutov AA
Letokhov VS → Sekatskii SK
Li X → Fu P
Li Y: Two orthogonally polarized optical beams in a family of Kerr-law nonlinear shifted parabolic graded-index rod lenses 161
Li Y → Präg AR
Li YL, Pretzler G, Fill EE, Nilsen J: Study of anomalous lasing behavior on the two J=0–1 transitions in Ne-like 125
Lin CH → Kawano H
Linde D von der, Rzàzewski K: High-order optical harmonic generation from solid surfaces 499
Linde D von der → Horváth ZL
Lison F → Kreis M
Liu S → Sun Q
Liu X → Du D
Ljungberg P, Axner O: Experimental investigation of the effect of collisions and temperature on degenerate four-wave mixing 69
Löffler M, Englert B-G, Walther H: Testing a Bell-type inequality with a micromaser 511
Lokhman VN → Karve RS
Longhi S → Taccheo S
Lorkowski HJ → Biebricher M
Lu ZW, Wang Q, He WM, Ma ZG: New parametric emissions in diatomic sodium molecules 43
Lucchesini A, De Rosa M, Pelliccia D, Ciucci A, Gabbanini C, Gozzini S: Diode laser spectroscopy of overtone bands of acetylene 277
Luque J, Crosley DR: Absolute CH concentrations in low-pressure flames measured with laser-induced fluorescence 91
Lüthy W → Weber T

Ma ZG → Lu ZW
Maiwald M → Reyher H-J
Makarov GN → Karve RS
Mallavia R → Fimia A
Manzano FA → D'Accurso V
Marowsky G → Stolle R
Martín E → Barrio JI del
Mateos F → Fimia A
Matthias E → Hohlfeld J
McMillin BK → Palmer JL
Meier W, Vyrodov AO, Bergmann V, Stricker W: Simultaneous Raman/LIF measurements of major species and NO in turbulent H_2/air diffusion flames 79
Meschede D → Kreis M
Meyerhoff M → Stoltz E
Mi X → Fu P
Michelmann K, Feurer T, Fernsler R, Sauerbrey R: Frequency resolved optical gating in the UV using the electronic Kerr effect 485
Miklós A → Bozóki Z
Minkovski N, Mirtchev T, Ivanov L: Generation of a wide discrete visible spectrum in a frequency-doubling optical fiber 20
Mirtchev T → Minkovski N
Mlynek J → Kreis M
Mlynek J → Nowak S
Mori Y → Bhar GC
Mormile P → Bernini U
Mormile P, Casale E, De Stefano L, Villiargio M: Light switching at a prism-liquid crystal interface. A new sensor for magnetic fields 385
Mossavi K → Wellegehausen B
Mourou G → Du D
Müller A: Two independently tunable distributed feedback dye lasers pumped by a single picosecond Nd:YAG laser 443
Müller M → Laeri FG

Nacher P-J → Stoltz E
Nagy G → Bozóki Z
Nakano H, Nishikawa T, Ahn H, Uesugi N: Effects of an ultrashort prepulse on soft X-ray generation from an aluminium plasma produced by femtosecond Ti:Sapphire laser pulses 107
Neeser S, Schumann M, Langhoff H: Improved gain for the Ar_2^* excimer laser at 126 nm 103
Neumann J, Jäkel G, Krätzig E: Holographic scattering lines observed with photorefractive $BaTiO_3$ 599
Niessner R → Petzold A
Nilsen J → Li YL
Nishikawa T → Nakano H
Noll R → Sturm V
Nowak S, Pfau T, Mlynek J: Nanolithography with metastabile helium 203
Nowak S → Kreis M

Ochkin VN, Witteman WJ, Ilukhin BI, Kochetov IV, Peters PJM, Udalov YuB, Tskhai SN: Influence of the electric field frequency on the performance of a RF excited CO_2 waveguide laser 575
Okada Y, Okamura H, Onoe J, Suda A, Tashiro H, Takeuchi K: Vibrational predissociation of UF_6 clusters in supersonic Laval nozzle flow 57
Okamura H → Okada Y
Onoe J → Okada Y

Palleschi V → Ciucci A
Palmer JL, McMillin BK, Hanson RK: Multiline fluorescence imaging of the rotational temperature field in a shock-tunnel free jet 167
Palucci A → Ciucci A
Parvitte B → Zéninari V
Pavone FS → Fey-den Boer AC
Pelliccia D → Lucchesini A
Peters PJM → Ochkin VN
Petzold A, Niessner R: Photoacoustic soot sensor for in-situ black carbon monitoring 191
Pfau T → Kreis M
Pfau T → Nowak S
Pfeiffer K → Biebricher M
Pfeiffer M → Johr T
Podymova NB → Karabutov AA
Popov G → Blagoev KB
Präg AR, Glinz A, Balmer JE, Li Y, Fill EE: Prepulse dependence of J=0–1 lasing at 32.6 nm in neon-like titanium 113
Pretzler G → Li YL
Putlitz G zu → Reinhard I
Putnam RS → Eckhoff WC

Rambaldi P → Vezin B
Rastelli S → Ciucci A
Reinhard I, Gabrysch M, Fischer von Weikersthal B, Jungmann K, Putlitz G zu: Measurement and compensation of frequency chirping in pulsed dye laser amplifiers 467
Rempel C → Schade W
Reyher H-J, Faust B, Maiwald M, Hesse H: ODMR and EPR investigations of Fe centers in $KTaO_3$ 331
Ribezzo S → Ciucci A
Rothuizen H → Fumeaux C
Rudra AM → Bhar GC
Rupp RA → Woike Th
Russo P → Bernini U
Rzàzewski K → Linde D von der

Saito T, Ito S, Tada A: Long lifetime operation of an ArF-excimer laser 229
Sakowski H → Laeri FG
Saltiel S, Koynov K, Buchvarov I: Analytical formulae for the optimization of the process of low-power phase modulation in a quadratic nonlinear medium 39
Saltiel S, Koynov K, Buchvarov I: Self-induced transparency and self-induced darkening with a nonlinear frequency-doubling polarization interferometer 371
Sasabe H → Tokunaga E
Sasaki T → Bhar GC
Sastre R → Fimia A
Satooka S → Kuga Y
Sattmann R → Sturm V
Sauer M → Zander C
Sauerbrey R → Michelmann K
Schade W, Blanke T, Willer U, Rempel C: Compact tunable mid-infrared laser source by difference frequency generation of two diode-lasers 99
Scherbaum FJ, Knopp R, Kim JI: Counting of particles in aqueous solutions by laser-induced photoacoustic breakdown detection 299
Schieder R → Woike Th
Schmid H → Contzen J
Schulz A → Zander C
Schulz P → Biebricher M
Schumann M → Neeser S
Schwarzberg E → Stolle R
Scott SJ → Anderson N
Seidel CAM → Zander C
Sekatskii SK, Letokhov VS: Single fluorescence centers on the tips of crystal needles: First observation and prospects for application in scanning one-atom fluorescence microscopy 525
Serényi M → Bozóki Z
Sharma LB → Zhang T
Shimoda K: Optical frequency counters 507
Sigrist MW → Kästle R
Sillard P → Brignon A
Simon P → Szatmári S
Sircar A, Dwivedi RK, Thareja RK: Laser induced breakdown of Ar, N_2 and O_2 gases using 1.064, 0.532, 0.355 and 0.266 μm radiation 623
Slezak VB → D'Accurso V
Sneider J → Bozóki Z
Sorokin PP → Glownia JH
Steen HJL van der → Ciucci A
Stevendaal U van, Buse K, Kämper S, Hesse H, Krätzig E: Light-induced charge transport processes in photorefractive barium titanate doped with rhodium and iron 315
Stolle R, Marowsky G, Schwarzberg E, Berkovic G: Phase measurements in nonlinear optics 491
Stoltz E, Meyerhoff M, Bigelow N, Leduc M, Nacher P-J, Tastevin G: High nuclear polarization in ^{3}He and ^{3}He–^{4}He gas mixtures by optical pumping with a laser diode 629
Stoltz E, Villard B, Meyerhoff M, Nacher P-J: Polarization analysis of the light emitted by an optically pumped ^{3}He gas 635
Stricker W → Meier W
Sturm V, Sattmann R, Noll R: Optical fiber transmission of multiple Q-switch Nd:YAG laser pulses with microsecond interpulse separations 363
Suda A → Okada Y
Sugg B → Woike Th
Suhre DR, Taylor LH: Six-Watt mid-infrared laser using harmonic generation with Tl_3AsSe_3 225
Sun Q, Xu J, Liu S, Zhang G, Zhang G, Fang Q, Tian G: The inhomogeneity of two-wave coupling in photorefractive crystals in 90° geometry 35
Svelto C → Taccheo S
Svelto O → Taccheo S
Szabó G → Bozóki Z
Szatmári S, Almási G, Feuerhake M, Simon P: Production of intensities of ~10^{19} W/cm^2 by a table-top KrF laser 463

Tablas FMG → Barrio JI del
Taccheo S, Laporta P, Longhi S, Svelto O, Svelto C: Diode-pumped bulk erbium-ytterbium lasers 425
Tada A → Saito T
Takeuchi K → Kuga Y
Takeuchi K → Okada Y
Tashiro H → Okada Y
Tastevin G → Stoltz E
Taylor LH → Suhre DR
Templier R → Faure N
Terasaki A → Tokunaga E
Thareja RK → Sircar A
Tian G → Sun Q
Tittel FK → Eckhoff WC
Tokunaga E, Terasaki A, Valencia VS, Wada T, Sasabe H, Kobayashi T: Femtosecond phase spectroscopy of multi-level systems: Phthalocyanines 255
Tskhai SN → Ochkin VN
Tsukiyama K → Hasegawa H

Udalov YuB → Ochkin VN
Uesugi N → Nakano H

Valencia VS → Tokunaga E
Vezin B, Douard M, Rambaldi P, Wolf J-P: Tunable no-tracking OPO-OPA tandem in the near-infrared pumped by a Ti:Sapphire laser 201
Villard B → Stoltz E
Villiargio M → Mormile P
Vinkó J → Horváth ZL
Vonmetz K → Gotschy W
Vyrodov AO → Meier W

Wada T → Tokunaga E
Walther H → Löffler M
Wang Q → Lu ZW
Wang S → Eckhoff WC
Wang Y → Yin J
Weber HP → Weber T
Weber T, Lüthy W, Weber HP: Side-pumped fiber laser 131
Wellegehausen B, Mossavi K, Egbert A, Chichkov BN, Welling H: Short-pulse high-intensity excimer lasers – A powerful tool for the generation of coherent VUV and XUV radiation 451
Welling H → Wellegehausen B
Werncke W → Johr T
Willer U → Schade W
Williams GRJ: Excited-state absorption and third-order optical nonlinearities in symmetric π-electron organic molecules 47
Witteman WJ → Ochkin VN
Wöhlecke M, Corradi G, Betzler K: Optical methods to characterise the composition and homogeneity of lithium niobate single crystals 323
Woike Th, Haussühl S, Sugg B, Rupp RA, Beckers J, Imlau M, Schieder R: Phase gratings in the visible and near-infrared spectral range realized by metastable electronic states in $Na_2[Fe(CN)_5NO] \cdot 2H_2O$ 243
Wolf J-P → Vezin B
Wolfrum J → Zander C

Wyon C → Faure N

Xu J → Sun Q

Yamada M → Chan KP
Yin J, Zhu S, Gao W, Wang Y: Relationship between temporal coherence and laser parameters in a two-longitudinal-mode HeNe laser 8
Yonemura M → Zhang T
Yu Z → Fu P

Zander C, Sauer M, Drexhage KH, Ko D-S, Schulz A, Wolfrum J, Brand L, Eggeling C, Seidel CAM: Detection and characterization of single molecules in aqueous solution 517
Zéninari V, De Backer MR, Parvitte B, Courtois D: Absolute intensity measurement of a ν_3 ozone line at saturated vapor pressure with a laser heterodyne spectrometer 179
Zhang G → Sun Q
Zhang T, Yonemura M, Sharma LB, Daido H, Kato Y: Second-harmonic generation with traveling-wave pulses 237
Zhou F, Huang G, Gu S: A high average power rotating hollow cylinder Nd:glass laser 585
Zhu S → Yin J

Indexed in *Current Contents*
Evaluated and abstracted for PHYS on STN